Fall 2021 Python Multiple Regression Analysis

Data File: bikerental.xlsx

The bike rental company wants to know if the casual users' factors are the same as those influencing the registered users. What are the factors influencing casual users? What are the factors influencing the registered users?

Your Tasks:

1) Write a Python program using the sklearn methods to perform the multiple regression analyses needed to answer the bike company's questions.
    a. Use an 80 (train)/20 (test) split and the random seed of 20 to prepare the training/testing datasets.
    b. Store your training and test data for the casual user model using the variables x_train_c,x_test_c,y_train_c,y_test_c
    c. Store your training and test data for the registered user model using the variables x_train_r,x_test_r,y_train_r,y_test_r
    d. Your estimated y values for casual users should be stored in a variable named predicted_y_c
    e. Your estimated y values for registered users should be stored in a variable named predicted_y_r
    f. Your predictive model for casual users should be stored in a variable named bike_mod_c
    g. Your predictive model for registered users should be stored in a variable named bike_mod_r
    h. Create a pandas dataframe named c_influencers to store only the column names and values of the factors that influence the casual users
    i. Create a pandas dataframe named r_influencers to store only the column names and values of the factors that influence the registered users
2) Submit your Python program. Name your Python program as bikerentalanalysis.py. You can use print or other output statements to test your program, but please remove all print and output statements before submitting your program.